FAX

Tetra Tech EM Inc.
4820 Olympic Boulevard
Erlanger, KY 41018
(859) 746-9200
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To: Wayne Lawrence / Mike Valerius
Fax number: (937) 335-3735

From: Stephanie
Fax number: (859) 746-9201

Date: 8/5/05

Regarding: HASP

Pages (including fax cover sheet):

Comments:

Please deliver to Wayne Lawrence or Mike Valerius with Tetra Tech EMI (EPA contractor).

Tetra Tech EM Inc.

EMERGENCY RESPONSE HEALTH AND SAFETY PLAN

Site Name: Troy Styrene ER	**Site Contact:** Wayne Lawrence	**Telephone:** (513) 383-9386
Location: 1250 South Union Street, Troy, Ohio	**Client Contact:** Jon Gulch	**Telephone:** (734) 692-7686
EPA I.D. No. N/A	**Prepared By:** Stephanie Wenning	**Date:** August 5, 2005
Project No. TBD	**Date of Activities:** August 5, 2005 - ongoing	

Objectives: Provide technical support to determine the type and extent of contamination and cleanup options. Specific activities may include those checked below.

- [X] Reconnaissance
- [X] Oversight and documentation
- [X] Air monitoring
- [ ] Multimedia sample collection
- [ ] Other (*specify*) _____
- [ ] Other (*specify*) _____

Site Type: *Check as many as applicable.*

[X] Active	[ ] Landfill	[ ] Residential
[ ] Inactive	[ ] Railroad	[X] Industrial
[ ] Secured	[ ] Uncontrolled	[ ] Urban
[X] Unsecured	[ ] Controlled	[X] Other *(specify)* Polymer plant

Initial Site information This section should include all information provided during initial calls regarding the emergency response (ER). Typical information includes materials and quantities involved, number of START personnel needed, other organizations involved, and specialized equipment or materials that may be required.

Tetra Tech START responded to a release of styrene from the Deltech Polymers Plant in Troy, Ohio. Local residents have been evacuated from the immediate area and U.S. EPA is on scene to provide assistance. START will be performing perimeter air monitoring within a one-mile radius of the site. According to information from the scene, there is also a potential for release and/or explosion of nearby railcars containing Vinyl Toluene and Styrene Ethylbenzene.

Wind Speed and Direction (Approach from upwind): SE **Temperature (°F):** 75 **Precipitation: None** **Forecast: Possible showers**

Note: A detailed site sketch is provided on Page 9 of 12.

Initial Isolation and Protective Action Distances: Use the "2000 Emergency Response Guidebook" (ERG)

Initial Isolation Distance: This zone should extend in all directions; 660 feet for unknown hazards and 0.5 mile for tanker truck or rail car incidents.
NOTE: Keep a maximum distance away for unknown sites until the identity of the material(s) are determined.

Subsequent Isolation and Protection Action Zones Based on Air Monitoring Results:
NOTE: Distance at sites with unknown hazards should be increased, if necessary, based on air monitoring results.

Waste Type: [X] Liquid [ ] Solid [ ] Sludge [X] Gas [ ] Unknown

Waste Characteristics: Field screening and/or Hazcat ™ test may be used to identify if product-specific information is not available. *Check as many as applicable.*

[ ] Corrosive	[X] Flammable	[ ] Unknown
[ ] Toxic	[X] Volatile	[ ] Peroxide forming
[ ] Inert	[X] Reactive	[ ] Other *(specify)* _____
[X] Ignitable	[ ] Radioactive	[ ] Other *(specify)* _____

Hazard(s) of Concern: *Check as many as applicable.*

[X] Heat stress	[ ] Overhead utilities
[ ] Cold stress	[ ] Confined space(s)
[X] Explosion or fire hazard	[ ] Noise
[X] Oxygen deficiency	[ ] Biological hazard
[ ] Radiological hazard	[ ] Inorganic chemicals
[X] Underground storage tanks	[X] Organic chemicals
[ ] Surface tanks	[ ] Heavy equipment
[ ] Buried utilities	[ ] Other *(specify)* _____

Explosion or Fire Potential: [X] High [ ] Medium [ ] Low [ ] Unknown

Chemical Products Tetra Tech EM Inc. Will Use or Store On Site: (Attach a Material Safety Data Sheet [MSDS] for each item.)

[X] Alconox® or Liquinox®	[ ] Calibration gas (Methane)	[ ] Hexane	[ ] Isopropyl alcohol
[ ] Hydrochloric acid (HCl)	[X] Calibration gas (Isobutylene)	[ ] Household bleach (NaOCl)	[X] Hazcat™ Kit
[ ] Nitric acid (HNO_3)	[ ] Calibration gas (Pentane)	[ ] Sulfuric acid (H_2SO_4)	[ ] Other (*specify*) _____
[ ] Sodium hydroxide (NaOH)	[ ] Hydrogen gas	[ ] Acetic acid	[ ] Other (*specify*) _____

Applicable Safe Work Practices (SWP) attach to ERHASP:
Check as many as applicable

- [X] SWP 6-1 - General Safe Work Practices
- [ ] SWP 6-2 - Control of Hazardous Energy Sources (Lockout/Tagout)
- [ ] SWP 6-3 - Safe Drilling Practices
- [ ] SWP 6-4 - Excavation Practices
- [ ] SWP 6-5 - Working Over or Near Water
- [ ] SWP-6-6 - Hot Work Practices
- [X] SWP 6-7 - Special Site Hazards
- [ ] SWP 6-8 - Safe Electrical Work Practices
- [ ] SWP 6-9 - Fall Protection Practices
- [ ] SWP 6-10 - Portable Ladder Safety
- [ ] SWP 6-11 - Drum and Container Handling Practices
- [ ] SWP 6-12 - Shipping Dangerous Goods
- [X] SWP 6-13 - Flammable Hazards and Ignition Sources
- [ ] SWP 6-14 - Spill and Discharge Control Practices
- [X] SWP 6-15 - Heat Stress
- [ ] SWP 6-16 - Cold Stress
- [ ] SWP 6-17 - Biohazards
- [ ] SWP 6-18 - Underground Storage Tank Removal Practices
- [ ] SWP 6-19 - Working Safely with Hydrazine
- [ ] SWP 6-20 - Working Safely with Benzene
- [ ] SWP 6-21 - Radiation Safety Practices
- [ ] SWP 6-22 - Hydrographic Data Collection
- [ ] SWP 6-23 - Permit-Required Confined Space
- [ ] SWP 6-24 - Non-Permit-Required Confined Space
- [ ] SWP 6-25 - Oil and Petroleum Distillate Fuel Product Hazards
- [ ] SWP 6-26 - Use of Heavy Equipment
- [ ] SWP 6-27 - Respirator Cleaning Procedures
- [ ] SWP 6-28 - Safe Work Practices for Use of Air Purifying Respirators
- [ ] SWP 6-29 - Respirator Qualitative Fit Testing Procedures
- [ ] SWP 6-32 - Safe Work Practice for Sampling Anthrax Contamination in Buildings

Tetra Tech Employee Training and Medical Requirements:

Basic Training and Medical

- [X] Initial 40 Hour Training
- [X] 8-Hour Supervisor Training (one-time)
- [X] Current 8-Hour Refresher Training
- [X] Current Medical Clearance (including respirator use)
- [X] Current First Aid Training (minimum 1 Tetra Tech employee on site)
- [X] Current CPR Training (minimum 1 Tetra Tech employee on site)

Response Specific Training

- [ ] Confined Space Training
- [ ] Level A Training
- [ ] Radiation Training
- [ ] Atropine (Nerve Agent Antidote) Injector Training
- [ ] Other _____

Materials Present or Suspected at Site	Highest Observed Concentration (specify units and media)	Exposure Limit (specify ppm or mg/m³)	IDLH Level (specify ppm or mg/m³)	Primary Hazards of the Material (explosive, flammable, corrosive, toxic, volatile, radioactive, biohazard, oxidizer, etc.)	Symptoms and Effects of Acute Exposure	Photo-ionization Potential (eV)
Styrene	Unknown	PEL = 100ppm REL = 50 ppm TLV =	700ppm	Highly volatile, possible explosion hazard.	Irritation of eyes, nose, respiratory system, headache, exhaustion, dizziness, possible liver injury	8.40
Vinyl toluene	Unknown	PEL =100 ppm (TWA) REL = 100 ppm (TWA) TLV =	400 ppm		Irritation of eyes, skin, upper respiratory system, drowsiness	8.20
		PEL = REL = TLV =				
		PEL = REL = TLV =				
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Information Source(s):

Note: Use the following short forms to complete the table above.

A = Air
CARC = Carcinogenic
eV = Electron volt
GW = Groundwater
IDLH = Immediately dangerous to life or health
mg/m³ = Milligram per cubic meter
NA = Not available

NE = None established

PEL = Permissible exposure limit
ppm = Part per million
REL = Recommended exposure limit
S = Soil

SW = Surface water
TLV = Threshold limit value
U = Unknown

Field Activities Covered Under This Plan:

Task Description	Level of Protection[1] Primary	Level of Protection[1] Contingency	Date of Activities
1 Site Reconaissance	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	8/5/05
2 **Perimeter Air Montioring**	☐ A ☐ B ☐ C ☒ D	☐ A ☐ B ☒ C ☐ D	8/5/05
3 **Air Monitoring -Near tank**	☐ A ☒ B ☐ C ☐ D	☐ A ☐ B ☒ C ☐ D	8/5/05
4	☐ A ☐ B ☐ C ☐ D	☐ A ☐ B ☐ C ☐ D	
5	☐ A ☐ B ☐ C ☐ D	☐ A ☐ B ☐ C ☐ D	

Site Personnel and Responsibilities (include subcontractors):

Employee Name and Office Code	Task(s)	Responsibilities
Wayne Lawrence- CN	1,2,3	• Project Manager or Field Team Leader: Directs project investigation activities, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with client as necessary.
Mike Valerius - CN	1,2,3	• Site Safety Coordinator (SSC): Ensures that appropriate personal protective equipment (PPE) is available, enforces proper utilization of PPE by on-site personnel, suspends investigative work if he or she believes that site personnel are or may be exposed to an immediate health hazard, implements the health and safety plan, and reports any observed deviations from anticipated conditions described in the health and safety plan to the health and safety representative. • Field Personnel: Completes tasks as directed by the project manager, field team leader, and SSC, and follows all procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual.

Note: [1] See next page for details regarding levels of protection

Protective Equipment: (Indicate type or material as necessary for each task.)

Task	Primary Level of Protection (A,B,C,D)	PPE Component Description (Primary)	Contingency Level of Protection (A, B, C, D)	PPE Component Description (Contingency)
1	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: N/A Glove material(s): As needed Boot material: Steel toe Other:	C	Respirator type: P100 Cartridge type (if applicable): Full face APR CPC material: Tyvek Glove material(s): Nitrile Boot material: Disposable boot cover Other:
2	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: N/A Glove material(s): As needed Boot material: Steel toe Other:	C	Respirator type: P100 Cartridge type (if applicable): Full face APR CPC material: Tyvek Glove material(s): Nitrile Boot material: Disposable boot cover Other:
3	B	Respirator type: SCBA Cartridge type (if applicable): CPC material: Saranex Glove material(s): Nitrile Boot material: Disposable boot cover Other:	C	Respirator type: P100 Cartridge type (if applicable): Full face APR CPC material: Tyvek Glove material(s): Nitrile Boot material: Disposable boot cover Other:
4		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:
5		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:		Respirator type: Cartridge type (if applicable): CPC material: Glove material(s): Boot material: Other:

Notes:
All levels of protection must include eye, head, and foot protection.
CPC = Chemical protective clothing
Thermoluminescent Dosimeter (TLD) Badges must be worn to all field activities. TLDs must be worn under CPC.

Monitoring Equipment: (Specify instruments needed for each task; attach additional sheets as necessary)

Instrument	Task	Instrument Reading	Action Guideline	Comments
Combustible gas indicator model:	[X] 1 [X] 2 [X] 3 [ ] 4 [ ] 5	0 to 10% LEL	Monitor; evacuate if confined space	[ ] Not needed
		10 to 25% LEL	Potential explosion hazard; notify SSC	
		>25% LEL	Explosion hazard; interrupt task; evacuate site; notify SSC	
Oxygen meter model:	[X] 1 [X] 2 [X] 3 [ ] 4 [ ] 5	>23.5% Oxygen	Potential fire hazard; evacuate site	[ ] Not needed
		23.5 to 19.5% Oxygen	Oxygen level normal	
		<19.5% Oxygen	Oxygen deficiency; interrupt task; evacuate site; notify SSC	
Radiation survey meter model:	[ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5	Normal background	Proceed with ER	• Annual exposure not to exceed 1,250 mrem per quarter [X] Not needed
		Two to three times background	Notify SSC	• Background reading must be taken in an area known to be free of radiation sources.
		>Three times background	Radiological hazard; interrupt task; evacuate site; notify Health Physicist	
Photoionization detector model: [ ] 11.7 eV [ ] 10.6 eV [X] 10.2 eV [ ] 9.8 eV [ ] _____ eV	[X] 1 [X] 2 [X] 3 [ ] 4 [ ] 5	Any response above background to 5 ppm above background	Level C[a] is acceptable Level B is recommended	• These action levels are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved. [ ] Not needed
		> 5 to 500 ppm above background	Level B	
		> 500 ppm above background	Level A	
Flame ionization detector model:	[X] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5	Any response above background to 5 ppm above background	Level C[a] is acceptable Level B is recommended	• These action level are for unknown gases or vapors. After the contaminants are identified, action levels should be based on the specific contaminants involved. [ ] Not needed
		>5 to 500 ppm above background	Level B	
		>500 above background	Level A	
Detector tube models:	[ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5	Specify: Styrene < ½ the PEL > ½ the PEL	Specify:	• The action level for upgrading the level of protection is one-half of the contaminant's PEL. If the PEL is reached, evacuate the site and notify a safety specialist [ ] Not needed
Other (specify):	[ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5	Specify:	Specify:	[ ] Not needed
Other (specify):	[ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5	Specify:	Specify:	[ ] Not needed

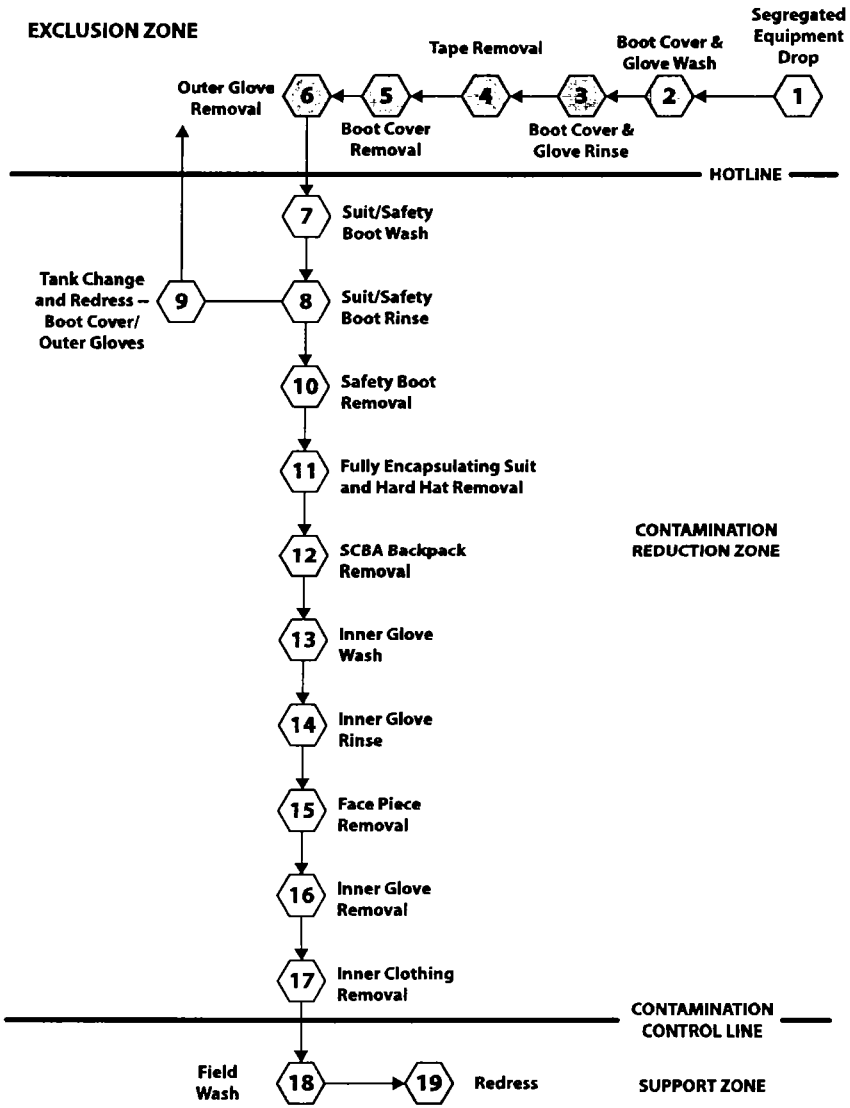
Notes:

eV= electron volt LEL=Lower explosive limit mrem=Millirem PEL=Permissible exposure limit ppm=Part per million

[a] Lvel C may be acceptable for certain tasks in some situations. If you are uncertain whether Level C is appropriate, consult the Regional Safety Officer. Additionally, when working with unknown respiratory hazards, Level C cartridge must provide protection for organic vapors, acid gases, ammonia, amines, formaldehyde, hydrogen fluoride, and particulate aerosols.

Example Decontamination Set-up for Level A PPE: *See page 12 of 12 for more information*

19 STEP MAXIMUM DECONTAMINATION LAYOUT FOR LEVEL A PROTECTION



Emergency Contacts:	Telephone No.
Work Care	(800) 455-6155
U.S. Coast Guard National Response Center	(800) 424-8802
InfoTrac	(800) 535-5053
Fire department	911
Police department	911
Tetra Tech EM Inc. Personnel:	
Regional Safety Officer: Rick Ecord	(678) 775-3094
Health and Safety Representative: Rick Ecord	(678) 775-3094
START Health and Safety Officer: Nancy Smith	(312) 656-4006
Office Health and Safety Coordinator: Wayne Lawrence	
Project Manager: Wayne Lawrence	
SSC: Mike Valerius	

Medical and Site Emergencies:

Signal a site and/or medical emergency with three blasts of a loud horn (car horn, fog horn, etc.). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name: Upper Valley Medical Center

Hospital Address: 3130 North Dixie Hwy

Hospital Telephone:
General - (937) 440-4000 Emergency - 911

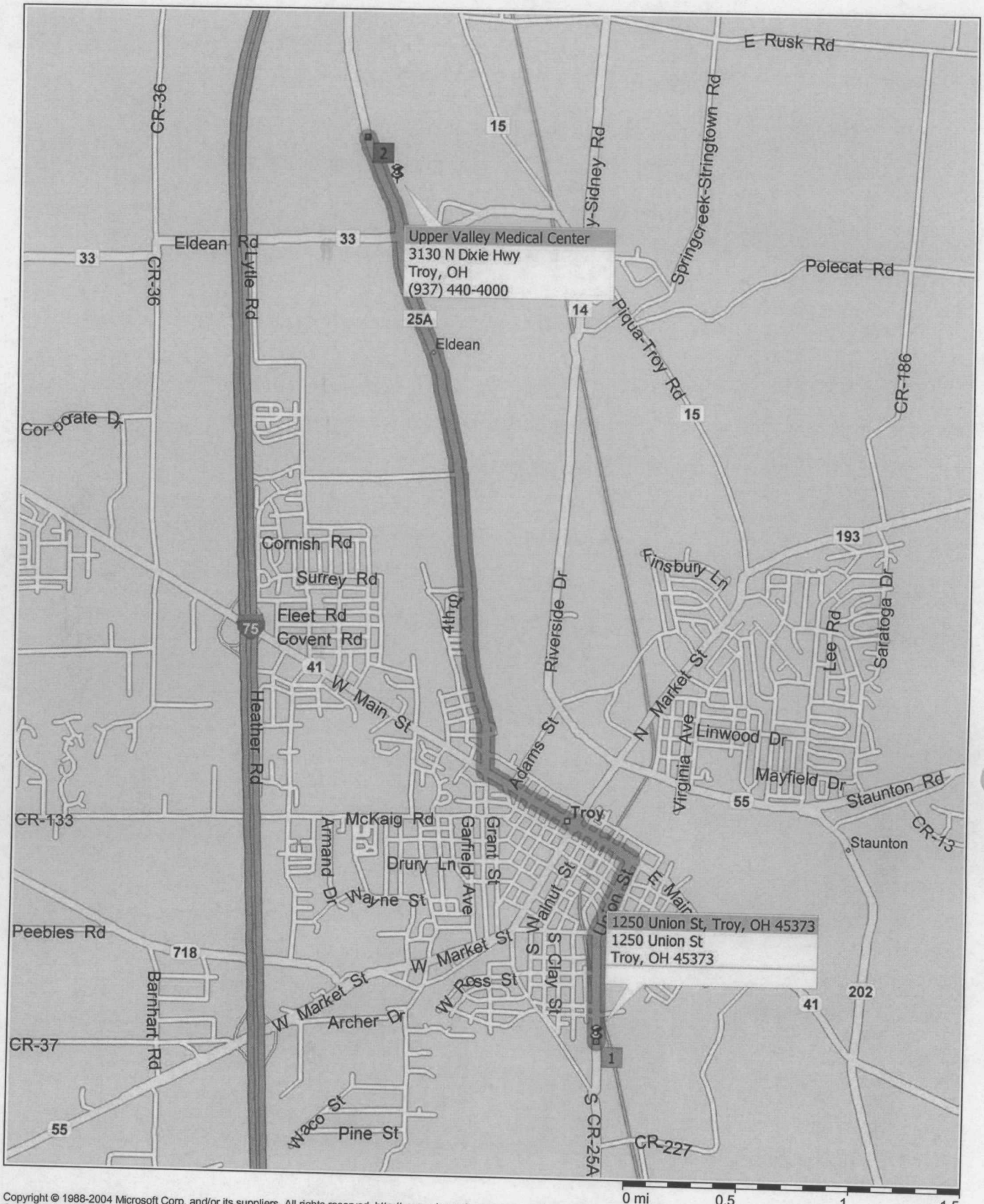
Ambulance Telephone: 911
Route to Hospital: (see Page 10 of 12 for route map)

Source: EPA Standard Operating Safety Guides Publication 9285.1-03, June 1992
Note: This page must be posted on site.

Site Map (May be drawn after arrival):	
Label the following on your map: 1. Orientation 2. Wind direction 3. Evacuation route 4. Area of safe refuge 5. Exclusion zone 6. Contamination reduction zone (CRZ) 7. Support zone 8. Location(s) of hazardous materials 9. Monitoring Location(s) 10. Sampling location(s) 11. Command post	

Hospital Directions

4.6 miles; 9 minutes



9:00 AM	0.0 mi	1 Depart 1250 Union St, Troy, OH 45373 [1250 Union St, Troy, OH 45373] on Union St (North) for 0.9 mi
9:02 AM	0.9 mi	Turn LEFT (West) onto SR-41 [E Main St] for 0.3 mi
9:03 AM	1.2 mi	At roundabout, take the SECOND exit onto SR-41 [W Main St] for 0.5 mi
9:03 AM	1.7 mi	Turn RIGHT (North) onto N Elm St for 0.5 mi
9:05 AM	2.1 mi	Road name changes to CR-25A for 2.5 mi
9:09 AM	4.6 mi	2 Arrive 3130 CR-25A, Troy, OH 45373

Route Summary

Total journey cost	$0.34
Driving distance	4.6 miles
Trip duration	9 minutes
Driving time	9 minutes
Crow's flight distance between all stops	4.2 miles

Route Segment Details

From	To	Method	Distance	Driving Time
1250 Union St, Troy, ...	3130 CR-25A, Troy, ...	Quickest	4.6 miles	9 minutes

Distance by State/Province

State/Province	Distance	Driving Time
Ohio	4.6 miles	9 minutes

APPROVAL AND SIGN-OFF FORM

Project No.: TBD

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator as well as procedures and guidelines established in the Tetra Tech, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Name	Signature	Date

APPROVALS *(Two Signatures Required)*:

Site Safety Coordinator	Date
Approved by Nancy Smith via phone SW Regional Safety Officer	8/5/05 Date

Note:

Guidance in the "START Health and Safety Plan Approval Procedures," dated September 19, 2001, must be followed by personnel who prepare and approve any ERHASP.

NIOSH Pocket Guide to Chemical Hazards

Styrene	**CAS** 100-42-5
$C_6H_5CH=CH_2$	**RTECS** WL3675000
Synonyms & Trade Names Ethenyl benzene, Phenylethylene, Styrene monomer, Styrol, Vinyl benzene	**DOT ID & Guide** 2055 128P (inhibited)

Exposure Limits	NIOSH REL: TWA 50 ppm (215 mg/m^3) ST 100 ppm (425 mg/m^3)
	OSHA PEL†: TWA 100 ppm C 200 ppm 600 ppm (5-minute maximum peak in any 3 hours)
IDLH 700 ppm See: 100425	**Conversion** 1 ppm = 4.26 mg/m^3

Physical Description
Colorless to yellow, oily liquid with a sweet, floral odor.

MW: 104.2	BP: 293°F	FRZ: -23°F	Sol: 0.03%
VP: 5 mmHg	IP: 8.40 eV		Sp.Gr: 0.91
Fl.P: 88°F	UEL: 6.8%	LEL: 0.9%	

Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.

Incompatibilities & Reactivities
Oxidizers, catalysts for vinyl polymers, peroxides, strong acids, aluminum chloride [Note: May polymerize if contaminated or subjected to heat. Usually contains an inhibitor such as tert-butylcatechol.]

Measurement Methods
NIOSH 1501, 3800; OSHA 9, 89
See: NMAM or OSHA Methods

Personal Protection & Sanitation Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contaminated Remove: When wet (flammable) Change: No recommendation	**First Aid** (See procedures) Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately

Important additional information about respirator selection
Respirator Recommendations NIOSH
Up to 500 ppm: (APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*/(APF = 10) Any supplied-air respirator*
Up to 700 ppm: (APF = 25) Any supplied-air respirator operated in a continuous-flow mode*/(APF = 50) Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s)/(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*/(APF = 50) Any self-contained breathing apparatus with a full facepiece/(APF = 50) Any supplied-air respirator with a full facepiece
Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode/(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus
Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms Irritation eyes, nose, respiratory system; headache, lassitude (weakness, exhaustion), dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects

Target Organs Eyes, skin, respiratory system, central nervous system, liver, reproductive system

NIOSH Pocket Guide to Chemical Hazards

Vinyl toluene	**CAS** 25013-15-4 (inhibited)
$CH_2=CHC_6H_4CH_3$	**RTECS** WL5075000
Synonyms & Trade Names Ethenylmethylbenzene, Methylstyrene, Tolyethylene	**DOT ID & Guide** 2618 130P

Exposure Limits	NIOSH REL: TWA 100 ppm (480 mg/m^3)
	OSHA PEL: TWA 100 ppm (480 mg/m^3)
IDLH 400 ppm See: IDLH INDEX	**Conversion** 1 ppm = 4.83 mg/m^3

Physical Description
Colorless liquid with a strong, disagreeable odor.

MW: 118.2	BP: 339°F	FRZ: -106°F	Sol: 0.009%
VP: 1 mmHg	IP: 8.20 eV		Sp.Gr: 0.89
Fl.P: 127°F	UEL: 11.0%	LEL: 0.8%	

Class II Combustible Liquid: Fl.P. at or above 100°F and below 140°F.

Incompatibilities & Reactivities
Oxidizers, peroxides, strong acids, iron or aluminum salts [Note: Usually inhibited with tert-butyl catechol to prevent polymerization.]

Measurement Methods
NIOSH 1501, OSHA 7
See: NMAM or OSHA Methods

Personal Protection & Sanitation Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contaminated Remove: When wet or contaminated Change: No recommendation	**First Aid** (See procedures) Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Important additional information about respirator selection
Respirator Recommendations NIOSH/OSHA
Up to 400 ppm: (APF = 10) Any chemical cartridge respirator with organic vapor cartridge(s)*/(APF = 25) Any powered, air-purifying respirator with organic vapor cartridge(s)*/(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/(APF = 10) Any supplied-air respirator*/(APF = 50) Any self-contained breathing apparatus with a full facepiece
Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode/(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus
Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister/Any appropriate escape-type, self-contained breathing apparatus

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms Irritation eyes, skin, upper respiratory system; drowsiness; in animals: narcosis

Target Organs Eyes, skin, respiratory system, central nervous system

See also: INTRODUCTION See ICSC CARD: 0514